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(71) Applicant (for all designated States except US): **KONINKLIJKE PHILIPS ELECTRONICS N.V.** [NL/NL];
Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

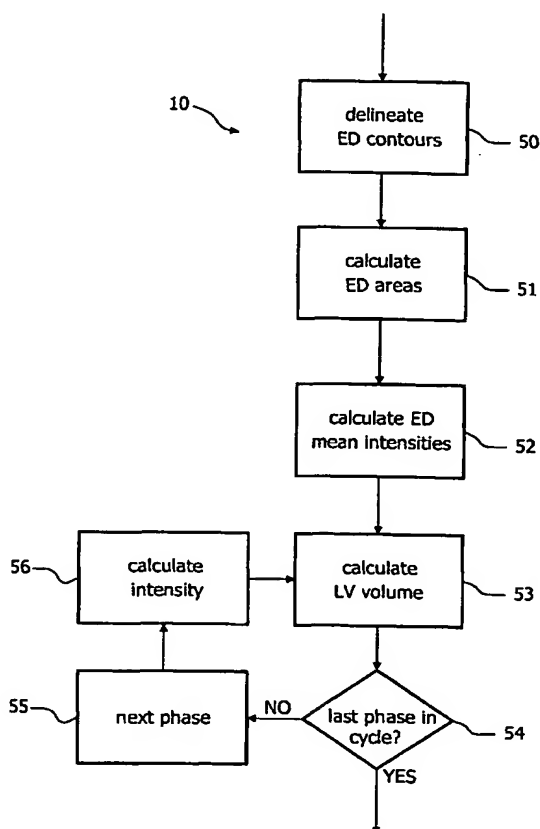
(75) Inventors/Applicants (for US only): **NOBLE, Nicholas, M., I.** [GB/GB]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). **BREEUWER, Marcel** [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(74) Agent: **SCHOUTEN, Marcus, M.**; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

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[Continued on next page]

(54) Title: **NON-INVASIVE LEFT VENTRICULAR VOLUME DETERMINATION**



(57) Abstract: A method of and a computer readable medium comprising a program for calculating total left ventricular (LV) volume during a cardiac cycle. The LV volume is estimated using only endocardial contours in a cardiac 3D image that was acquired at end diastole (ED), i.e. the moment at which the heart is fully relaxed. These contours are manually specified or (semi-)automatically derived. Based on these contours and on the pixel intensity in all other images, the LV volume is estimated based on intensity variations within the area enclosed by the contours (ED LV blood pool). These variations are proportional to the change in size of the ventricle. Hence ventricle volume and other derivable cardiac functionality parameters as well as the phase in the cardiac cycle are derived. The 3D image is previously to the method captured by means of a device for imaging inside parts of a mammal body, such as Magnetic Resonance (MR), Computer Tomography (CT), Nuclear Medicine (NM) or Ultrasound (US) devices.

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INTERNATIONAL SEARCH REPORT

IB2004/050503

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G06K9/00 A61B5/055 G06T5/00 A61B5/00 A61B8/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EP0-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/072672 A1 (ROUNDHILL DAVID N ET AL) 13 June 2002 (2002-06-13) paragraph '0040!; claims 1,4,5,12	1,8,11
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X	US 5 435 310 A (BOLSON EDWARD L ET AL) 25 July 1995 (1995-07-25) abstract; claim 1	1,6-8
A	WO 2004/019275 A (MULET PARADA MIGUEL; DECLERCK JEROME (GB); FELDMAR JACQUES (GB); M) 4 March 2004 (2004-03-04) page 2, line 6 -page 5, line 13; claims 1,13	1-21

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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

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Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax (+31-70) 340-3016

Authorized officer

Chopinaud, M

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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